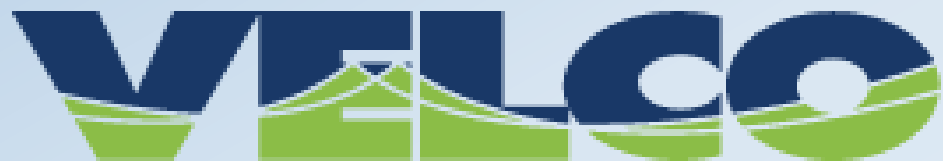




Trust • Value • Innovation



PAS REVIEW

January 2015



Scope of work for PAS

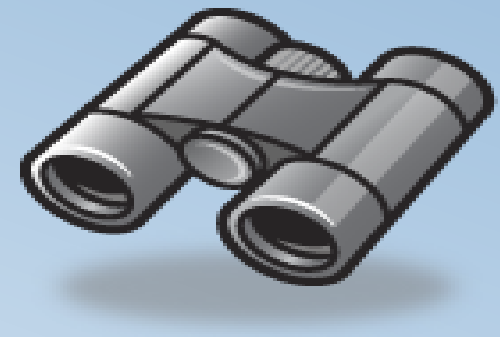
- Issued RFP for Transition Project Manager to help guide VELCO. Scope included high level evaluation of PAS and guidance for the future.
- 2 vendors submitted proposals:
- ARC Business Solutions (Canadian company) was lowest price and the most capable bid submittal.

ARC Review Process

- Had multiple sessions with VELCO to review system and requirements.
- Met with Bridge Energy Group to obtain technical details.
- Visited EarthLink data center.
- Retrieved source code and analyzed for errors and best practices.
- Built data model of the PAS database tables.
- Established PAS database in the ARC environment.
- Analysis and Recommendations.

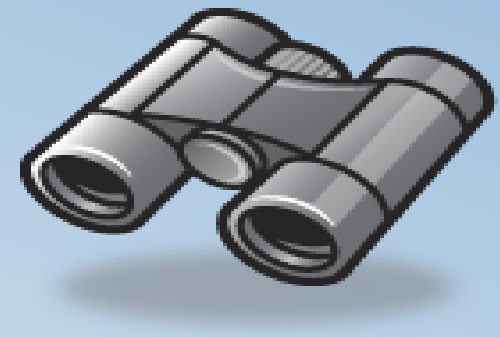


ARC findings



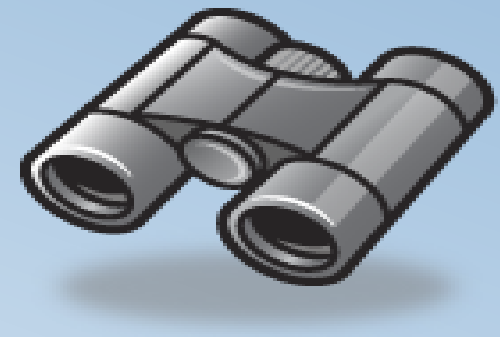
- BEG relationship has significant challenges
- More complex system than required
- Lacking project and operational process
- Dated hardware and software infrastructure
- Stagnant system improvements/stalled completion
- Many fundamental features missed
- Transition will require significant effort

BEG Relationship



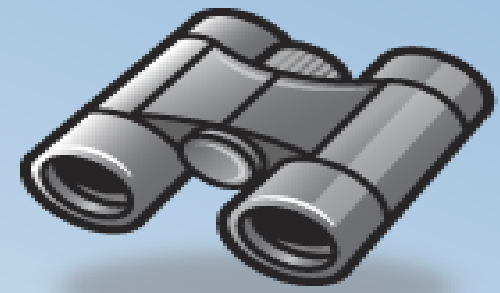
- Relationship is not one of Trusted Partner
- Lack of communication
- Scope changes
- Unexpected costs
- Poor support model
- Any turnover of any one of 3 resources would have a significant impact → risk

ARC findings



- BEG is not performing testing when they develop new code
- BEG is not performing maintenance of system. (Not reviewing logs and cleaning out event logs)
- BEG has not kept up on Software. We are on unsupported versions of Jboss and Java

ARC findings



- Source code error checking revealed over 55,000 potential errors (~10-15% are significant)
- System designed using Common Information Model (CIM). May have led to developing a system much larger than we need.
- Hardware may be the original purchased and has not been upgraded.

System Findings

Item	Type
Oracle System retirement - Existing defects and enhancements to be completed	Enhance
Other existing defects and enhancements to be completed	Enhance
Add Auditing Functionality	Enhance
Metering Calculation Change to maintain calc sheet	Enhance
Metering Changes to be automated further	Enhance
Meter Data duplicate checking to be improved	Enhance
Add more Inline documentation / comments	Enhance
Renew SSL Certificate	Infrastructure
Add Concurrency	Infrastructure
Allow Database Access	Infrastructure
Staging / Testing Environment to be added	Infrastructure
Data Center to be changed	Infrastructure
Contractual and Vendor Change	Processes
Create System and User Documentation	Processes
Ensure Version Control Software always used	Processes
Testing Processes	Processes
Add Build Server	Processes
Minimize Technical Debt	Processes
Defect Tracking	Processes
Continuous Improvement	Processes
Transition away from current hosting / vendor	Processes
Upgrade Database and other technical components to current	Upgrade
Upgrade Hardware before end of life	Upgrade

Vendor Relationship Options

Option	Description
1	Remain with Bridge
2	In-House Hosting and Support at VELCO
3	New Vendor Hosting and Support
4	In-House Hosting at VELCO and New Vendor Support

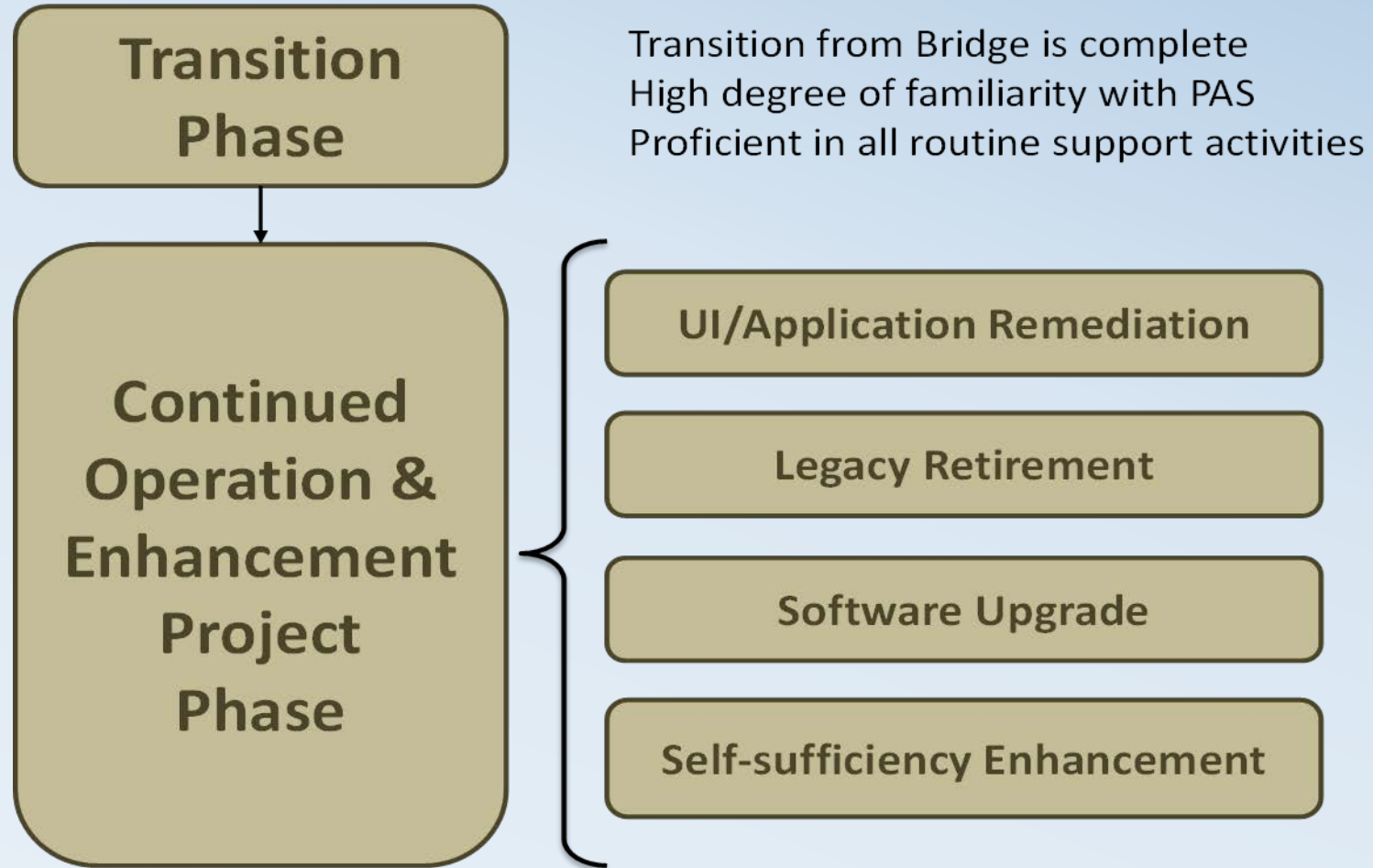
Recommendation

Long-term → Option 4

Services Required

The following services would be required for a transition of PAS away from Bridge:	Base Support	Project	Self Sufficiency
1. Development of Changes to PAS – significant or time sensitive		X	
2. Development of Changes to PAS – “job jar”	X		
3. Support of the system in case of issues	X		
4. Database Support and Maintenance	X		
5. Operational data changes – Add new speed meter, Add new meter			X
6. Hardware and hosting support	X		
7. Performance monitoring and tuning	X		
8. Upgrade / Retaining Currency of Software and Hardware		X	
9. Adhoc data query			X

Transition



Decisions we need to make



- Do we stay with BEG? If not, should we choose ARC?
- What do we do about aging hardware at Earthlink site? Should we set up a new virtual machine in our computer room for PAS?
- Do we continue to use the “cloud” as backup?
- Do we perform minor programming changes ourselves and use vendor for major changes to the PAS?
- How do we communicate a change with BEG?